

USGS-NPS Vegetation Mapping Program
Walnut Canyon National Monument

Pinus ponderosa – (*Pinus edulis* – *Juniperus osteosperma*) / *Bouteloua gracilis* Woodland

MAP CLASS	Ponderosa Pine - Pinyon Pine – Juniper / Blue Grama Woodland
COMMON NAME	Ponderosa Pine (Pinyon Pine – Utah Juniper) / Blue Grama Woodland
PHYSIOGNOMIC CLASS	Woodland (II.)
PHYSIOGNOMIC SUBCLASS	Evergreen woodland (II.A.)
PHYSIOGNOMIC GROUP	Temperate or subpolar needle-leaved evergreen woodland (II.A.4.)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural (II.A.4.N.)
FORMATION	Rounded-crowned temperate or subpolar needle-leaved evergreen woodland (II.A.4.N.a.)
ALLIANCE	<i>Pinus ponderosa</i> Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL This association is a variation of the association *Pinus ponderosa* / *Bouteloua gracilis* Woodland. It is not designated a new association, but a variation of the association *Pinus ponderosa* / *Bouteloua gracilis* Woodland that has a strong classification confidence level.

USFS WETLAND SYSTEM Upland

RANGE

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Ponderosa Pine (Pinyon Pine–Utah Juniper) / Blue Grama Woodland is one of the most common associations within the central section of the project boundary. It is the dominant association in the central section of the project boundary and occurs mainly in the upland environment. All of our relevé data were identified from south of Walnut Canyon in USDA-FS lands mainly from the central portion of the project boundary.

ENVIRONMENTAL DESCRIPTION

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The elevation of this association ranged from 2010-2075m (average 2,045m). The slope varied from flat areas to hill slopes ranging from 0-25% (average 10%).

MOST ABUNDANT SPECIES

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<u>Stratum</u>	<u>Species</u>
Tree canopy	<i>Pinus ponderosa</i> , <i>Pinus edulis</i> , <i>Juniperus osteosperma</i>
Herbaceous	<i>Bouteloua gracilis</i>

ASSOCIATED SPECIES

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Festuca arizonica, *Gutierrezia sarothrae*, *Heterotheca villosa*, *Juniperus scopulorum*, *Purshia mexicana*, *Quercus gambelii* (all occur with >5% cover)

VEGETATION DESCRIPTION

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Ponderosa Pine (Pinyon Pine – Utah Juniper) / Blue Grama Woodland total vegetation cover ranged from 44-80% (average 58%) with 23-52% absolute cover (average 39%) in the tree layer, 2-18% (average 8%) in the shrub layer, and 17-35% (average 23%) in the herbaceous layer. The total species diversity ranged from 18-31 (average 25) in the 8 relevés sampled.

The tree layer was co-dominated by *Pinus ponderosa* with 8-26% absolute cover (average 15%), *Pinus edulis* with 9-30% cover (average 17%), and *Juniperus osteosperma* with 4-16% cover (average 8%). The DBH for *Pinus ponderosa* was 4-28 in (11-71 cm) (average 10in/26 cm), *Pinus edulis* was 4-16 in (11-41 cm) (average 7 in/19 cm), and *Juniperus osteosperma* was 4-28 in (11-71 cm) (average 9 in/23 cm). A single shrub type did not dominate the shrub layer. The herbaceous layer was dominated by *Bouteloua gracilis* with 9-20% cover (average 15%).

CONSERVATION RANK G4

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DATABASE CODE C EGL000848

MAP CLASSES

The association Ponderosa Pine (Pinyon Pine – Utah Juniper) / Blue Grama Woodland is represented by map class Ponderosa Pine - Pinyon Pine - Juniper / Blue Grama Woodland (map code 12).

Ponderosa Pine - Pinyon Pine - Juniper / Blue Grama Woodland was mapped both on the north and south side of Walnut Canyon, mostly within USDA-FS lands on the central and eastern section of the project boundary. The total area of Ponderosa Pine - Pinyon Pine - Juniper / Blue Grama Woodland within Walnut Canyon NM is 373 ac (151 ha) within 43 polygons and the total area in the park environs is 1,732 ac (701 ha) within 98 polygons.

COMMENTS

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This association has a co-dominance of Ponderosa Pine, Pinyon Pine, and Utah Juniper. Previous classifications (Ponderosa Pine Series, Pinyon Pine Series, Juniper Woodlands) have defined vegetation with this co-dominance as occurring in Ponderosa Pine, Pinyon Pine, or Utah Juniper dominated types (Stuever and Hayden 1997b). However, our observations suggest that a new association should be defined based on the co-dominance of all three conifers occurring over a large area within Walnut Canyon NM and in its environs. Currently, this type is treated in the NVCS as the *Pinus edulis* phase of the *Pinus Ponderosa* / *Bouteloua gracilis* Woodland (CEGL000848) (see Stuever and Hayden 1997b).

REFERENCES

Stuever and Hayden 1997b